

MEMORANDUM
DEPARTMENT OF TRANSPORTATION

DATE September 24, 1973

SUBJECT PIN 7500.34.311, FILED 73-16
I-81, TEST WELLS - JEFFERSON COUNTY

FROM Lyndon H. Moore, Soil Mechanics Bureau, Room 102, Bldg. 7
By: Wesley P. Moody *Wesley P. Moody*

TO C. J. Lyman, Regional Director of Transportation, Region 7 

cc J. Sternbach, Construction Subdivision, Room 404, Bldg. 5
M. D. Graham, Facilities Design Subdivision, Room 405, Bldg. 5
Attention: J. J. Ryan

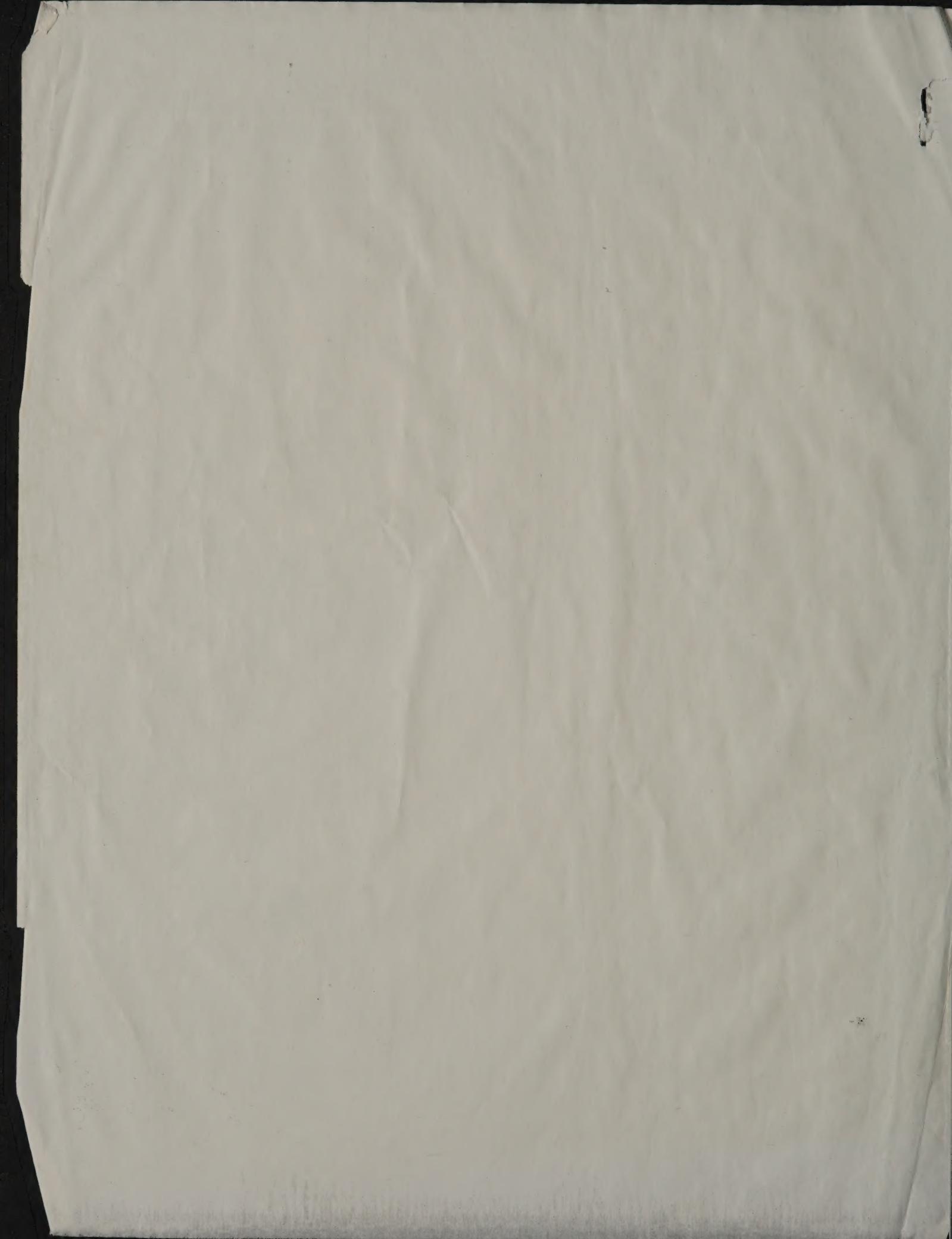
Enclosed is a copy of a test well report prepared by Arthur Klussendorf, Senior Engineering Geologist, describing work done on the subject project.

The recommendations contained therein will aid the State Architect to design the pumping system.

Please contact this Bureau if you have questions concerning this report.

LHM:EJL:MR
Attachment

#1 - 19' static level
#2 - 23' static level



MEMORANDUM
DEPARTMENT OF TRANSPORTATION

DATE September 17, 1973

SUBJECT FILE 73-16

INTERSTATE 505 TEST WELLS FOR PROPOSED COMFORT STATIONS
JEFFERSON COUNTY, PIN 7500.34-311

FROM ARTHUR B. KLUSSENDORF, Senior Engineering Geologist

TO WESLEY P. MOODY, Associate Soils Engineer

On August 16 and 17, 1973 the writer assisted Mr. William Monteith (EIC) in supervising the construction of Test Well No. 6. Wells No. 5 and No. 6 were drilled by order on Contract after Well No. 4 came up dry. Wells No. 1 and No. 2 are located at the NB site and wells No. 3 thru No. 6 are located at the SB site.

Copies of drillers' logs, pump test data and chemical, physical and bacteriological tests are attached. This data has already been forwarded to the State Architect.

Recommendations for location of pump intake and maximum pumping rate for each well are as follows:

Northbound Rest Area

1. Test Well No. 1

- a) Pump Intake - 50 to 75 feet below original ground
- b) Pumping Rate - not to exceed 25 gpm

2. Test Well No. 2

- a) Pump Intake - 50 to 75 feet below original ground
- b) Pumping Rate - not to exceed 25 gpm

Southbound Rest Area

3. Test Well No. 3

- a) Pump Intake - 150 to 175 feet below original ground
- b) Pumping Rate - not to exceed 12 gpm

4. Test Well No. 4

Abandoned - advised E.I.C. to seal hole

NYSDOT
Library
50 Wolf Road, POD 34
Albany, New York 12232

W. P. Moody
Page Two
September 17, 1973

5. Test Well No. 5

Abandoned - advised E.I.C. to seal hole

6. Test Well No. 6

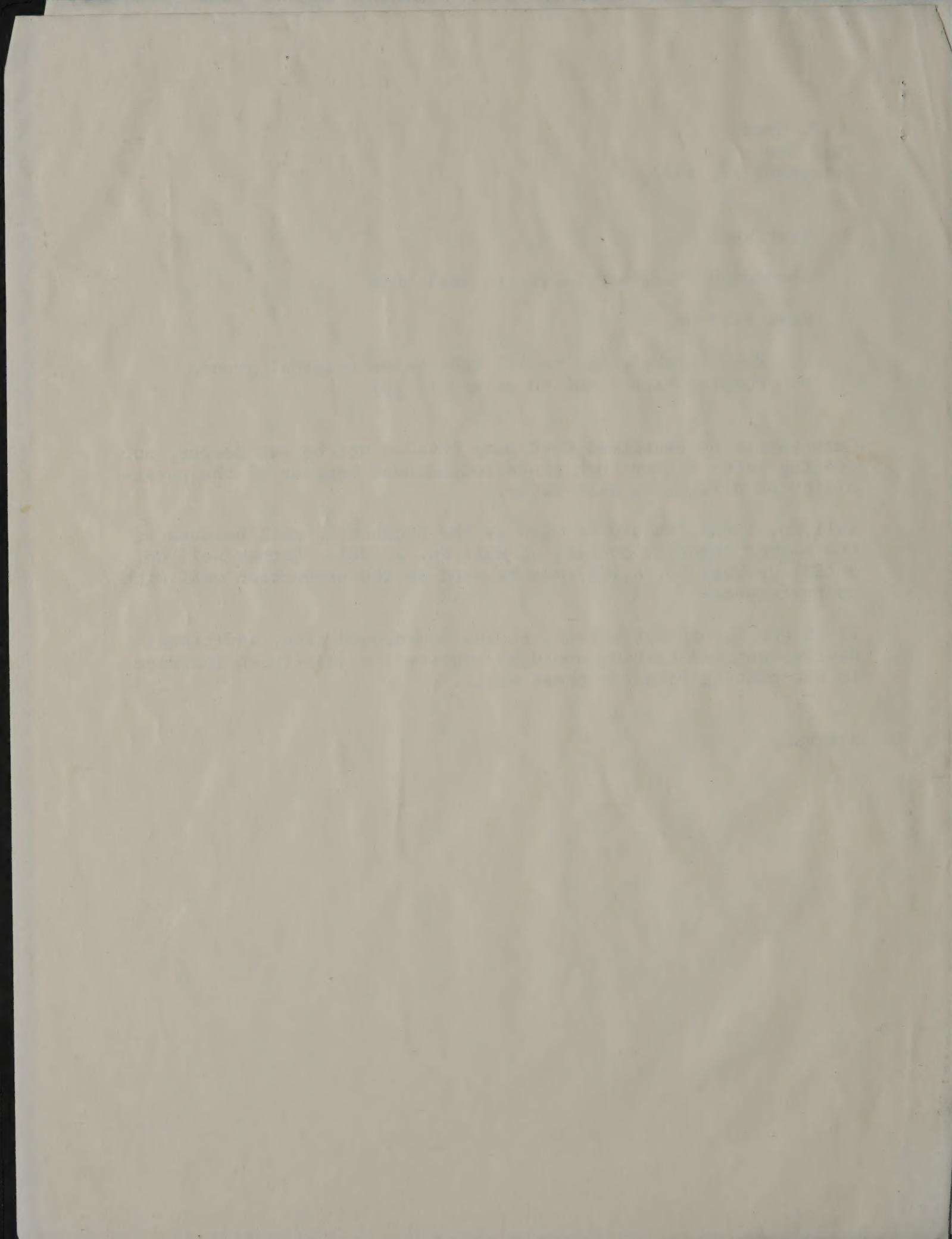
- a) Pump Intake - 150 to 175 feet below original ground
- b) Pumping Rate - not to exceed 12 gpm

Care should be exercised that pump intakes not be set deeper, nor pumping rates higher than those recommended because of the possibility of pulling in salt water.

Well No. 1 (NB) should be used as the production well because of the higher chloride content of Well No. 2 (NB). Either Well No. 3 (SB) or Well No. 6 (SB) may be used as the production well with no preference.

If 12 gpm is not sufficient, at the Southbound site, additional development and testing would be required to justify an increase in the pumping rate for these wells.

ABK:vav



TULLY DRILLING COMPANY, INC.

Poynette, Pa.

LOG OF WELL

Log of Well for	New York State Dept. of Transportation			Well No.	1
Address	Region 7, Watertown, New York			Test No.	
Well Located at	Route 81, Northbound	in	Jefferson	County, State of	N.Y.
Date Drilling started	August 7, 1973	Date Test Hole Completed		August 8, 1973	
Total depth to bottom of Well	200 feet	Diameter Test Hole		10" x 6"	
Water stands when not pumping	19	feet	inches from the surface of the ground		
Thickness of Stratum	Depth To Bottom of Strata	Formation Found Each Stratum	Thickness of Stratum	Depth To Bottom of Strata	Formation Found Each Stratum
18'	0- 18'	Overburden - clay			
10'	18'-28'	White Granite	ET		
18'		10" Temporary Casing			
29'		6" Casing- left in place and Grouted			
113'	28'-141'	White Granite	EP?		(Pink)
59'	141'-200'	Pink - Black Granite	PE?		
Water Veins					
		8G.P.M. @ 46'			
		2G.P.M. @ 60'			
		3G.P.M. @ 74'			
		7G.P.M. @ 148'			
		40G.P.M. @ 183'			

marks and opinion of Test

Well developed by air from drill to 60 G.P.M.

CHECK TYPE OF
RIG USED

Reverse
Rotary
Cable Tool
Wash
Other?

Frank Matarese Jr.

Driller

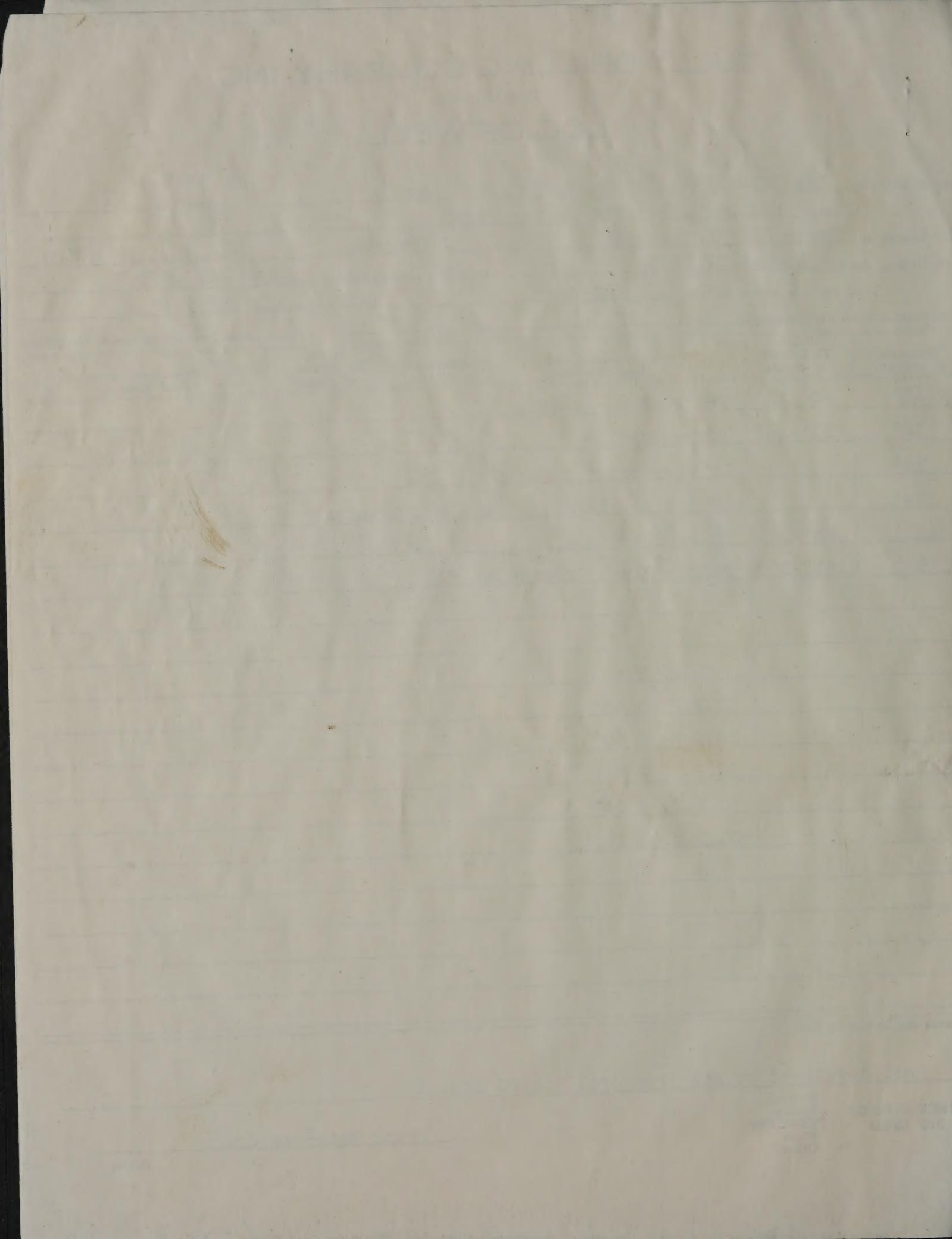


EXHIBIT NO. II

Record of well pumping test

CONTRACT NO. FILED 73-16. Sheet No. 1 of 2

Date August 25, 1973

OWNER NYS Dept. of Transportation, Region 7, Watertown, N.Y.
(Name and Address)

WELL NO. 1 LOCATION Route 81-Northbound, Jefferson County.

TEST DATA:

PERFORMED BY: Tully Drilling Co., Inc.

DATE STARTED: 8/13/73 DATE ENDED 8/14/73 PERIOD 24 HOURS

WELL DATA:

TYPE: Drilled Water Well Completed in Rock

TOTAL DEPTH: 200 FEET DIAMETER 6"

DESCRIBE WELL

CASING: 18'-10" Casing, 29'-6" Casing Grouted in Rock

ELEVATION TOP OF CASING OR OTHER REFERENCE POINT 2' Above Grade

STATIC WATER LEVEL (BELOW REF. PT.): 19 feet

REMARKS: One Foot of Casing installed after Pump Test.

PUMPING EQUIPMENT:

TYPE OF TEST PUMP: 5 HP, 220 Volt, 3 Phase Red Jacket

Submersible Pump w/30 KW Cat. Generator

CAPACITY: 65 GPM TDH: 450 FEET

OVERALL PUMP SETTING: 175 feet

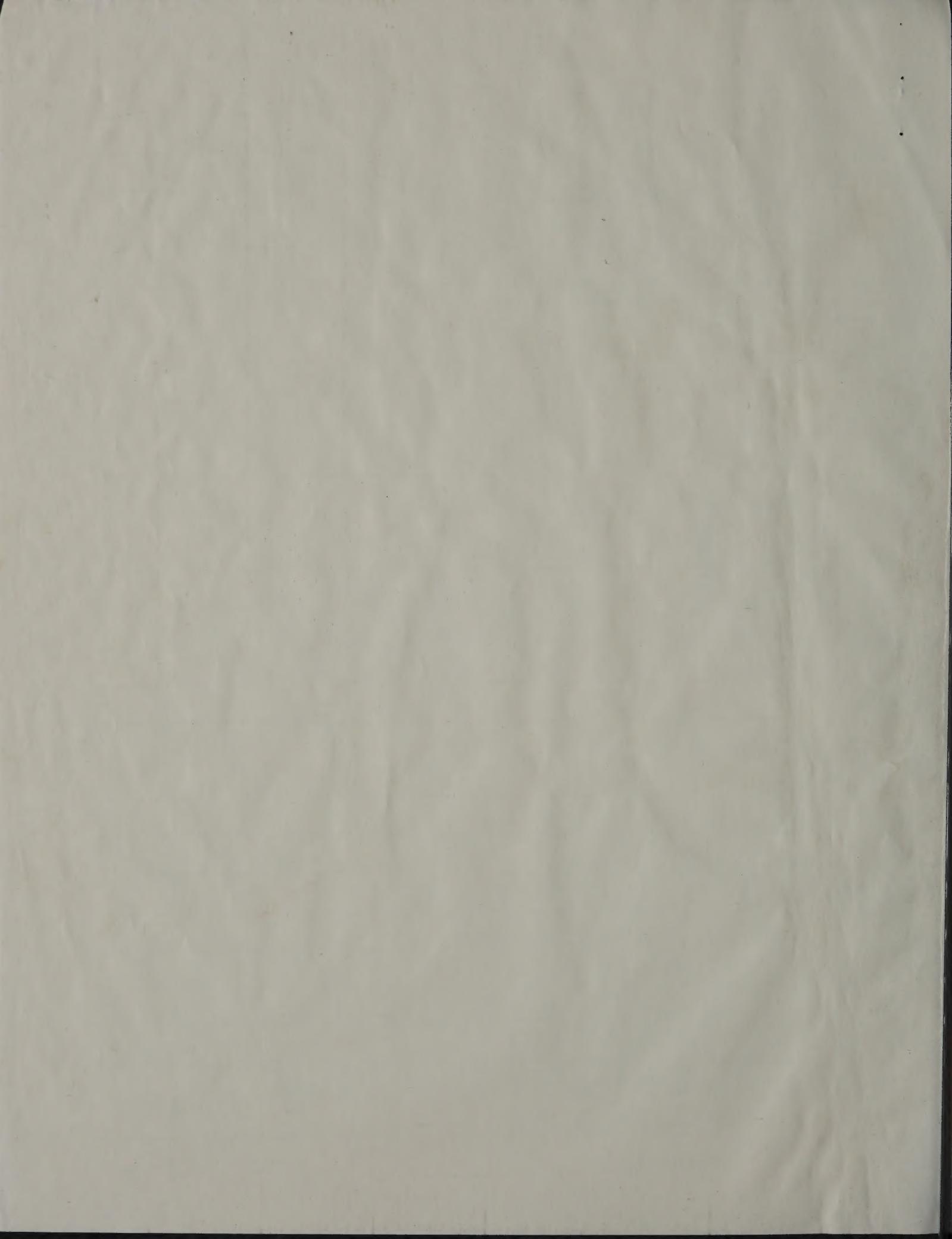
HOW WAS FLOW OF WATER MEASURED? 3" Discharge Pipe with
1 3/4" Orifice

HOW WAS WATER LEVEL DETERMINED? Electric Probe

LENGTH OF WATER LEVEL DETECTOR TUBE: none

REMARKS: Water Samples taken for Complete Analysis

SUBMITTED BY: _____ TITLE Vice Pres.

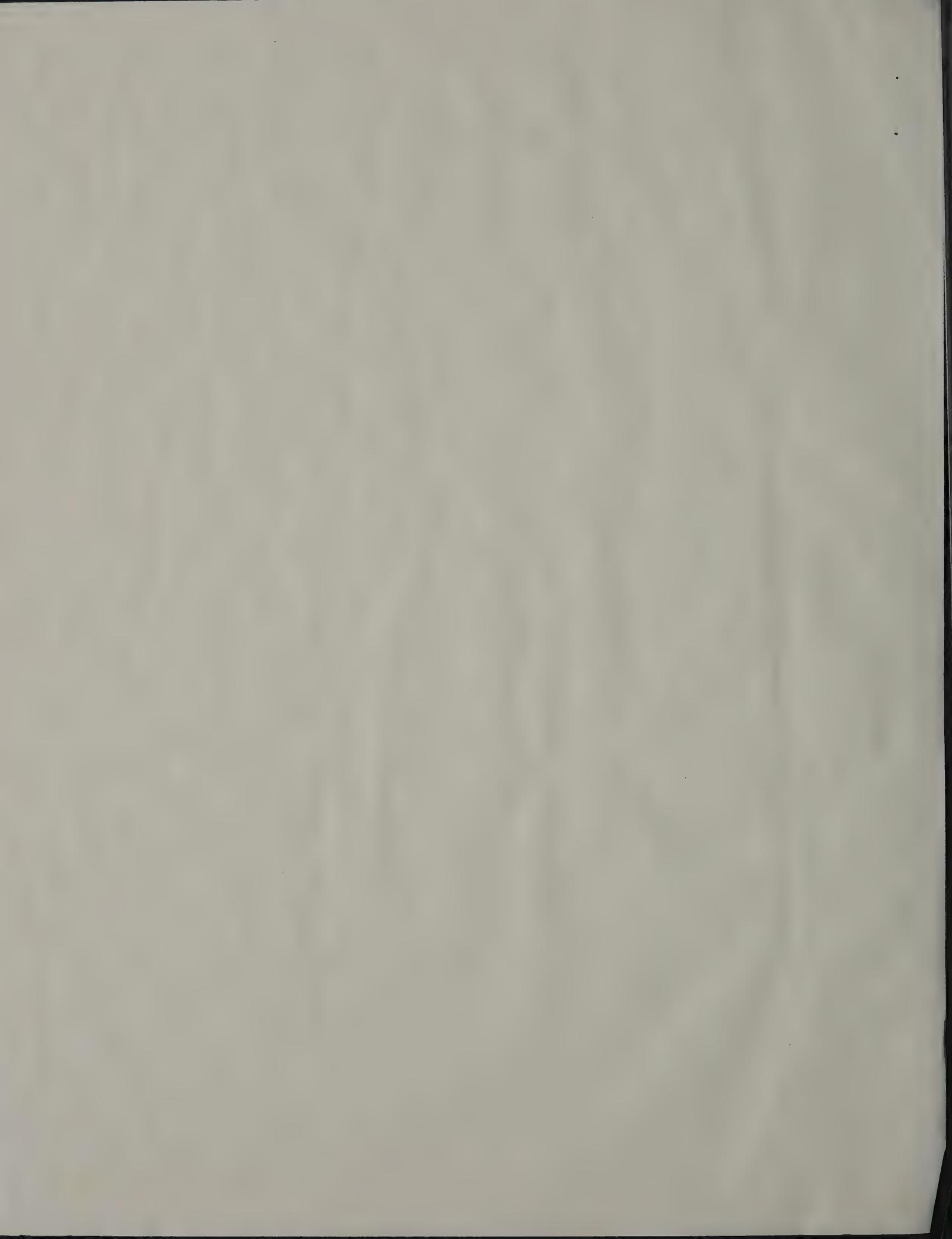


RECORD OF WELL PUMPING TEST

TULLY DRILLING CO., INC.

Sheet No. 2 of 2.Date August 25, 1973OWNER: NYS Dept. of Transportation, Region 7, Watertown, N.Y.
(Name and Address)WELL NO. 1 LOCATION: Route 81-Northbound, Jefferson County.TEST RESULTS:

TIME	GPM	WATER LEVEL (Feet Below Ref. Pt.)	DRAWDOWN (Feet)	WATER
3:25 PM		19'	Static Level	
3:27	64	21'	2 ft.	Clear
3:40	64	23'	4 ft.	"
4:00	64	24'	5 ft.	"
4:25	64	25'	6 ft.	"
5:50	64	26'	7 ft.	"
6:30	64	26.5'	7.5 ft.	"
7:00	64	27'	8 ft.	"
8:00	64	27'	8 ft.	"
9:00	64	27'	8 ft.	"
10:00	64	27'	8 ft.	"
11:00	64	27'	8 ft.	"
12:00 N	64	27'	8 ft.	"
1:00 AM	64	27'	8 ft.	"
2:00	64	27'	8 ft.	"
3:00	64	27'	8 ft.	"
4:00	64	27'	8 ft.	"
5:00	64	27'	8 ft.	"
6:00	64	27'	8 ft.	"
7:00	64	27'	8 ft.	"
8:00	64	27'	8 ft.	"
9:00	64	27'	8 ft.	"
10:00	64	27'	8 ft.	"
11:00	64	27'	8 ft.	"
12:00 N	64	27'	8 ft.	"
1:00 PM	64	27'	8 ft.	"
2:00	64	27'	8 ft.	"
3:00	64	27'	8 ft.	"
3:30	64	27'	8 ft.	"
RECOVERY: 1 min.		23'		
5 "		19'	Static Level	



24 ALLENDALE ROAD
BINGHAMTON, N. Y. 13903
722 - 0030

COSTELLO'S LABORATORY INC.

SUCCESSOR TO NELSON & LAUDER
CHARLES V. COSTELLO
CONSULTING SANITARY CHEMIST

LABORATORY FOR
SANITARY & ANALYTICAL
CHEMISTRY

RESULTS OF EXAMINATION OF WATER

LABORATORY NO: C 13/74 COLLECTED BY Tully Drilling Co.

DATE COLLECTED 8/15/73 RECEIVED 8/15/73 REPORTED 8/20/73

PLACE Watertown, N. Y. COUNTY

(CITY, TOWN, VILLAGE OR HAMLET)

SAMPLING POINT Well # 1 Contract # 73-16

OWNER TENANT

BACTERIAL EXAMINATION TEST FOR COLIFORM GROUP

BACTERIA PER ML. AGAR, 35°C - 24 HRS. M. P. N. * / 100 ML

THIS WATER WAS OF A SATISFACTORY SANITARY QUALITY WHEN THE SAMPLE WAS COLLECTED

PHYSICAL EXAMINATION

COLOR 1 TURBIDITY 3 ODOR + COLD Veg. + HOT

CHEMICAL EXAMINATION RESULTS IN PARTS PER MILLION

IRON (FE) .06	AMMONIA FREE (AS N)	OXYGEN CONSUMED (O)
MANGANESE (MN) Neg.	ALB. AMMONIA (AS N)	CHLORIDES (Cl) 10
as Rec'd	NITRITES (AS N)	TOTAL HARDNESS (AS CACO ₃) 245
CARBON DIOXIDE (CO ₂) 5.0	NITRATES (AS N) .06	ALKALINITY (AS CACO ₃) 229
FLUORIDES (F)	LOSS OF IGNITION	CALCIUM (AS CACO ₃) 185
TOTAL SOLIDS 344	SULFATES 42	MAGNESIUM (AS CACO ₃) 60
BICARBONATES	COPPER	ELECTROMETRIC PH VALUE 7.2
SILICA	ORTHO PHOSPHATES	META PHOSPHATES
TOTAL PHOSPHATES	TEMPT AIR ° F	TEMPT WATER ° F
SUSPENDED MATTER		
DETERGENTS		

NITROGEN CONSTITUENTS

REMARKS:

* MOST PROBABLE NUMBER

+1=VERY SLIGHT, 2=SLIGHT, 3=DISTINCT, 4=DECIDED, 5=EXTREME


CHARLES V. COSTELLO



Costello's Laboratory, Inc.
Charles V. Costello
Consulting Chemist

50 Allendale Road
Binghamton, N. Y. 13903
Phone: (607) 722-0030

RESULTS OF EXAMINATION OF WATER

LAB NO. 469/73

COLLECTED BY Tully Drilling Co.

DATE COLLECTED 8/14/73

DATE REPORTED 8/18/73

NAME OF SUPPLY Well Supply

OWNER'S NAME NYSDOT Contract 73-15

ADDRESS Watertown, N. Y.

SAMPLING POINT Test Pump Discharge

BACTERIA PER ML 160

(AGAR PLATE COUNT AT 35°)

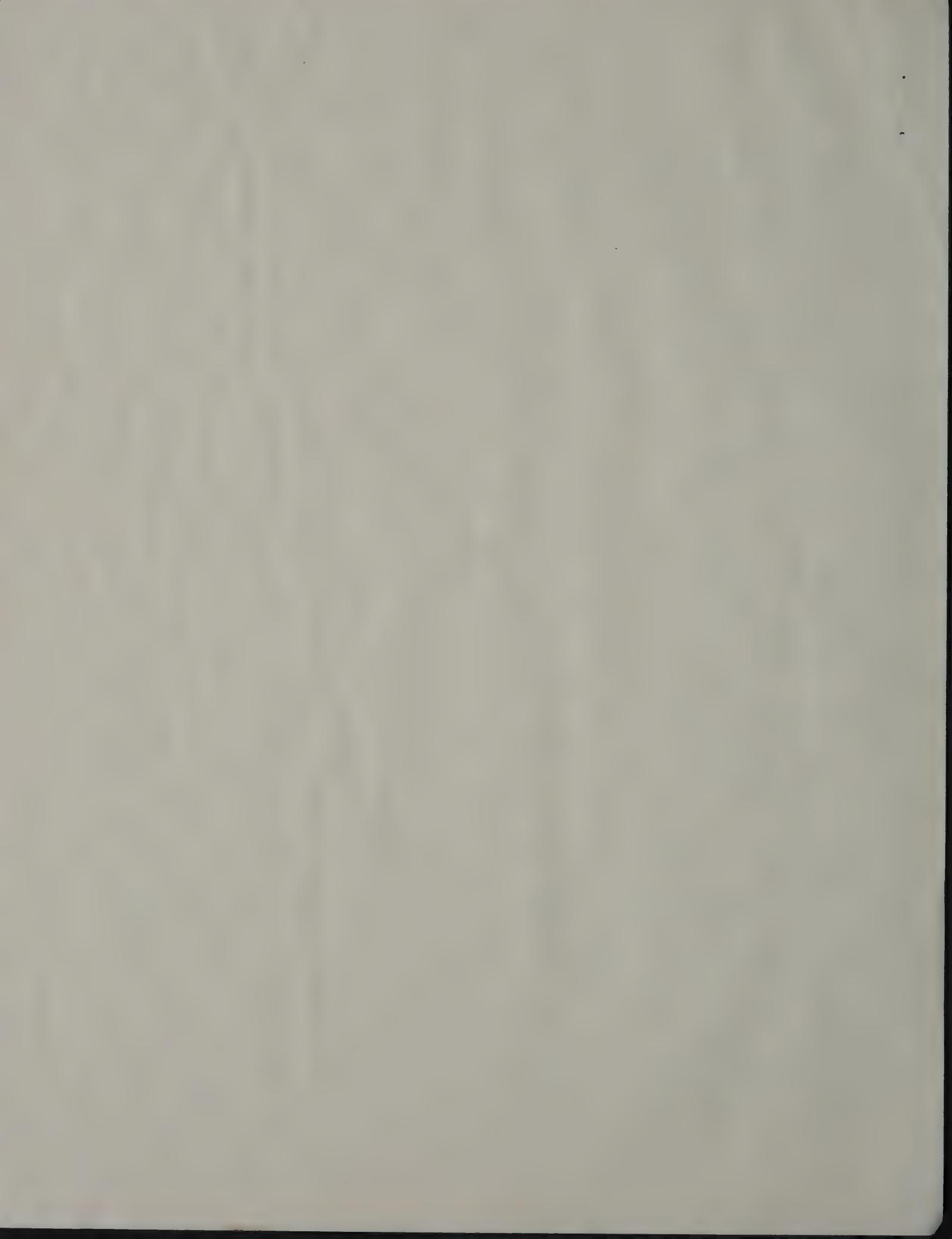
COLIFORM GROUP Negative

MPN NO/100 ML less than 2.2.0K

THE RESULTS INDICATE THAT THE WATER WAS
OF A SATISFACTORY SANITARY QUALITY WHEN THE SAMPLE WAS
COLLECTED.

REMARKS:

Charles V. Costello





Record of well pumping test

CONTRACT NO. FIELD 73-16 Sheet No. 1 of 2

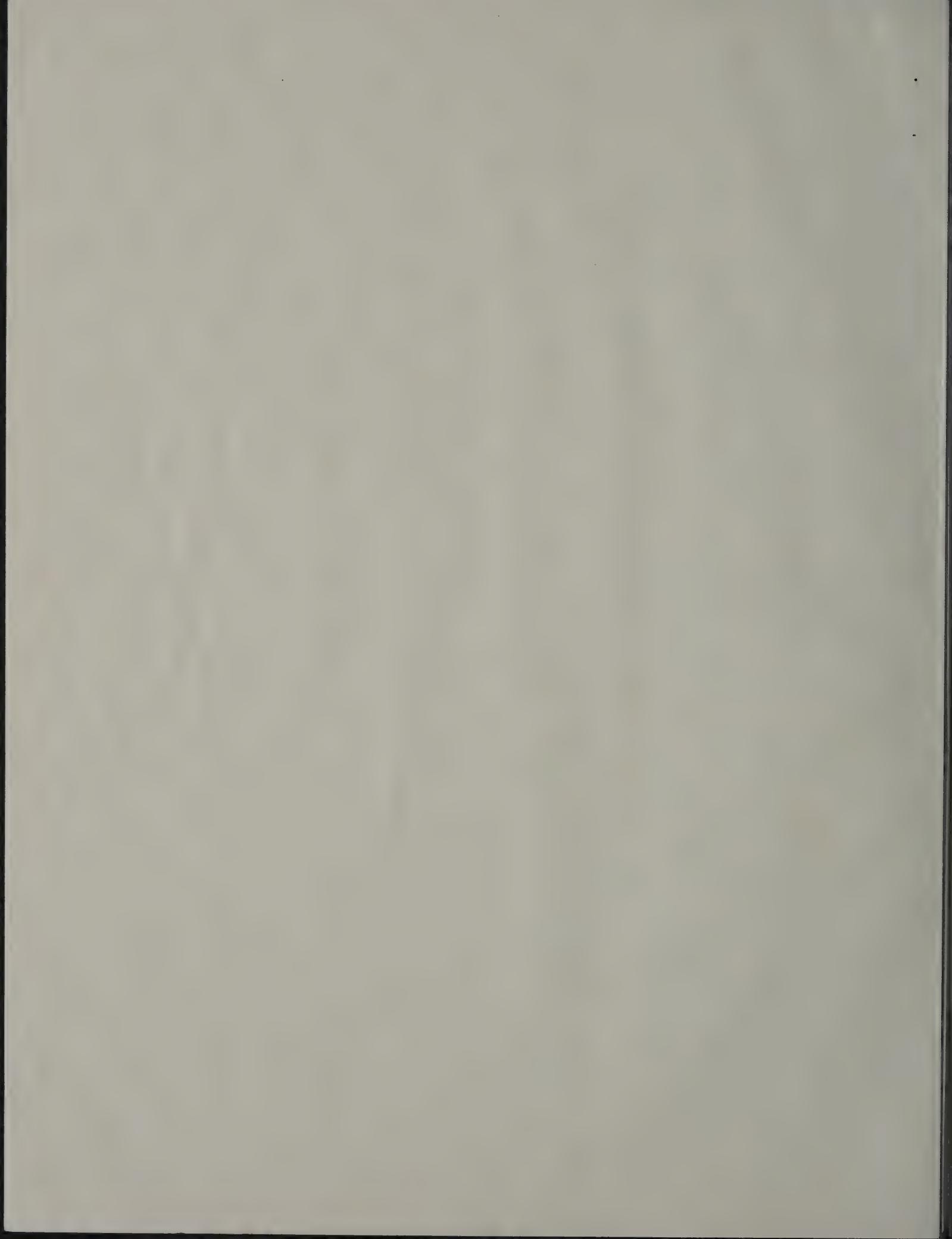
Date August 25, 1973OWNER NYS Dept. of Transportation, Region 7, Watertown, N.Y.
(Name and Address)WELL NO. 2 LOCATION Route 81-Northbound, Jefferson County.TEST DATA:PERFORMED BY: Tully Drilling Co., Inc.DATE STARTED: 8/14/73 DATE ENDED 8/15/73 PERIOD 24 HOURSWELL DATA:TYPE: Drilled Water Well Completed in RockTOTAL DEPTH: 99 FEET DIAMETER 6"

DESCRIBE WELL

CASING: 25'-6" Casing Driven one foot in Rock.ELEVATION TOP OF CASING OR OTHER REFERENCE POINT 2' Above GradeSTATIC WATER LEVEL (BELOW REF. PT.): 23 feet.REMARKS: One foot of Casing insulation after Pump Test.PUMPING EQUIPMENT:TYPE OF TEST PUMP: 5 HP, 220 Volt, 3 Phase Red Motor

Submersible Pump w/30 KW Cat. Generator.

CAPACITY: 65 GPM TDS: 450 FEETOVERALL PUMP SETTING: 68 feetHOW WAS FLOW OF WATER MEASURED? 3" Discharge Pipe with 1 3/4" orifice.HOW WAS WATER LEVEL DETERMINED? Electric ProbeLENGTH OF WATER LEVEL DETECTOR TUBE: noneREMARKS: Water Samples taken for Complete Analysis.SUBMITTED BY: TITLE Vice Pres.



RECORD OF WELL PUMPING TEST

TULLY DRILLING CO., INC.

Sheet No. 2 of 2.Date August 25, 1973.OWNER: NYS Dept. of Transportation, Highway 81, Canastota, N.Y.
(Name and Address)WELL NO. 2 LOCATION: Route 81-Northbound, Jefferson County.TEST RESULTS:

TIME	GPM	WATER LEVEL (Feet Below Ref.Pt.)	DRAWDOWN (Feet)	WATER
4:30 PM		23'	Static Level	
4:32	64	25'	2 ft.	Clear
4:35	64	27'	4 ft.	"
4:45	64	27'	4 ft.	"
5:00	64	27'	4 ft.	"
5:00	64	27'	4 ft.	"
7:00	64	27'	4 ft.	"
8:00	64	27'	4 ft.	"
9:00	64	27'	4 ft.	"
10:00	64	27'	4 ft.	"
11:00	64	27'	4 ft.	"
12:00 N	64	27'	4 ft.	"
1:00 AM	64	27'	4 ft.	"
2:00	64	27'	4 ft.	"
3:00	64	27'	4 ft.	"
4:00	64	27'	4 ft.	"
5:00	64	27'	4 ft.	"
5:00	64	27'	4 ft.	"
7:00	64	27'	4 ft.	"
8:00	64	27'	4 ft.	"
9:00	64	27'	4 ft.	"
10:00	64	27'	4 ft.	"
11:00	64	27'	4 ft.	"
12:00 N	64	27'	4 ft.	"
1:00	64	27'	4 ft.	"
2:00	64	27'	4 ft.	"
3:00	64	27'	4 ft.	"
4:00	64	27'	4 ft.	"
4:30	64	27'	4 ft.	"
RECOVERY: 1 min.		24 ft.		
5 "		23 ft.	Static Level	



50 ALLENDALE ROAD
BINGHAMTON, N. Y. 13903
722 - 0030

COSTELLO'S LABORATORY INC.

SUCCESSION TO NELSON & LAUDER
CHARLES V. COSTELLO
CONSULTING SANITARY CHEMIST

LABORATORY FOR
SANITARY & ANALYTICAL
CHEMISTRY

RESULTS OF EXAMINATION OF WATER

LABORATORY NO. C 14/73 COLLECTED BY Tully Drilling Co.

DATE COLLECTED 3/15/73 RECEIVED 6/15/73 REPORTED 3/20/73

PLACE Watertown N. Y. COUNTY _____

(CITY, TOWN, VILLAGE OR HAMLET)

SAMPLING POINT Well # 2 North Bound

OWNER WYNDOR TENANT _____

BACTERIAL EXAMINATION TEST FOR COLIFORM GROUP

BACTERIA PER ML. AGAR, 35°C - 24 HRS. M. P. N. * / 100 ML

THIS WATER WAS _____ OF A SATISFACTORY SANITARY QUALITY WHEN THE SAMPLE WAS COLLECTED

PHYSICAL EXAMINATION

COLOR 5.0 TURBIDITY 2.0 ODOR + COLD Veg. + HOT

CHEMICAL EXAMINATION RESULTS IN PARTS PER MILLION

IRON (Fe) <u>.05</u>	AMMONIA FREE (AS N) _____	OXYGEN CONSUMED (O) _____
MANGANESE (Mn) <u>.005</u> as Rec'd	ALB. AMMONIA (AS N) _____	CHLORIDES (Cl) <u>162</u>
CARBON DIOXIDE (CO ₂) <u>5.0</u>	NITRITES (AS N) _____	TOTAL HARDNESS (AS CaCO ₃) <u>255</u>
FLUORIDES (F) _____	NITRATES (AS N) <u>.18</u>	ALKALINITY (AS CaCO ₃) <u>246</u>
TOTAL SOLIDS <u>323</u>	LOSS OF IGNITION _____	CALCIUM (AS CaCO ₃) <u>182</u>
BICARBONATES _____	SULFATES <u>35</u>	MAGNESIUM (AS CaCO ₃) <u>73</u>
SILICA _____	COPPER _____	ELECTROMETRIC PH VALUE <u>7.2</u>
TOTAL PHOSPHATES _____	ORTHO PHOSPHATES _____	META PHOSPHATES _____
SUSPENDED MATTER _____	TEMPT AIR ° F _____	TEMPT WATER ° F _____
DETERGENTS _____		

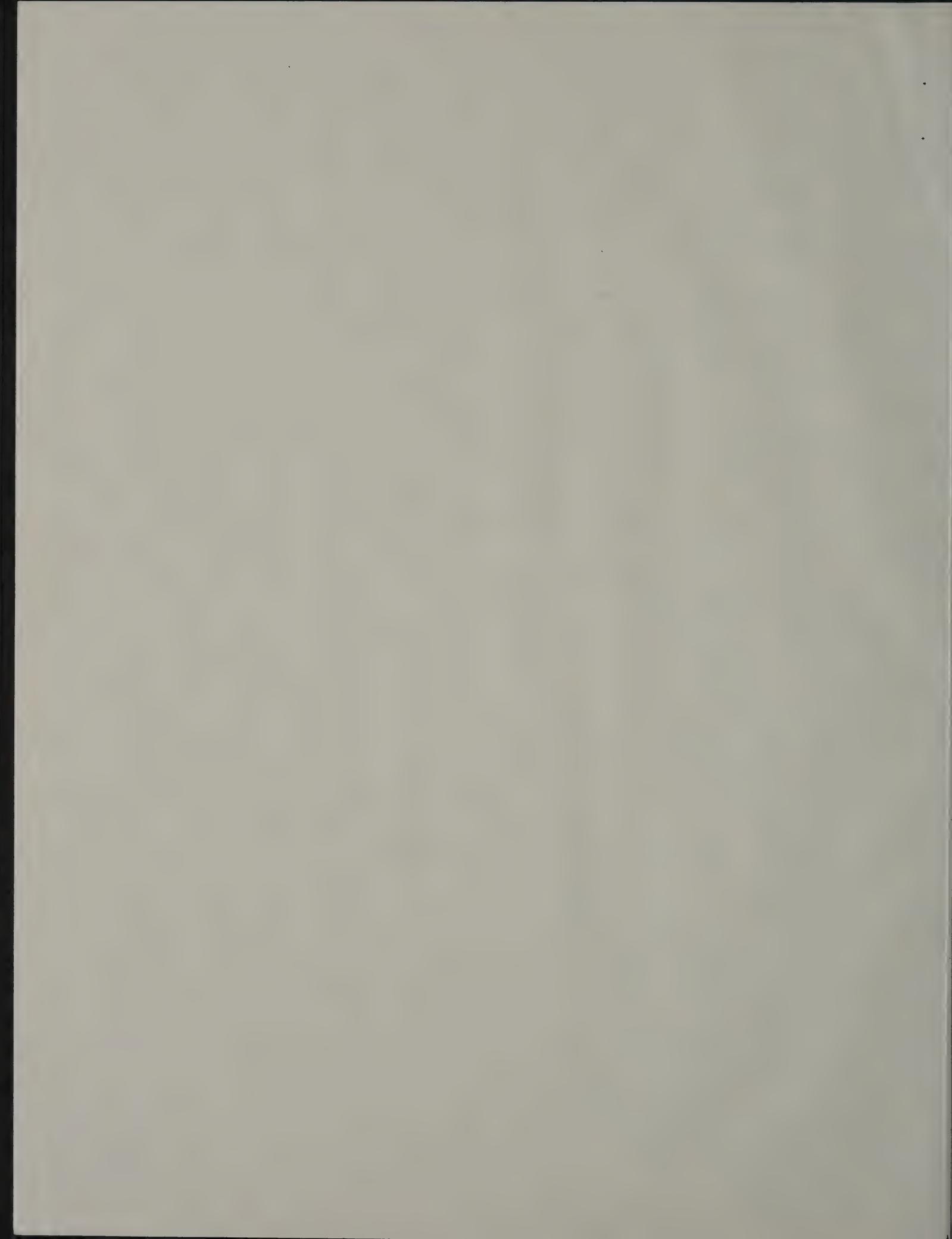
REMARKS:

* MOST PROBABLE NUMBER

+1=VERY SLIGHT, 2=SLIGHT, 3=DISTINCT, 4=DECIDED, 5=EXTREME

John V. Costello

CHARLES V. COSTELLO



Costello's Laboratory, Inc.
Charles V. Costello
Consulting Chemist

30 Allendale Road
Binghamton, N.Y. 13903
Phone: (607) 722-3030

THE CONSTITUTION OF THE STATE OF WASHINGTON

COLLECTED BY: Fully Drilling Company

DATE COLLECTED 8/25/73 - 11:00 AM

DATE REPORTED 8/27/73

NAME OF SUPPLY No. 2 North Bound.....

OWNER'S NAME New York State Dept. of Transportation

OWNER'S NAME New York State Dept. of Transportation

ADDRESS Watertown, New York

SAMPLING POINT New test well

BACTERIA PER ML _____

(AGAR PLATE COUNT AT 35°)

COLIFORM GROUP.....Negative.

MPN NO/100 ML Less than 2.2

THE RESULTS INDICATE THAT THE WATER WAS
OF A SATISFACTORY SANITARY QUALITY WHEN THE SAMPLE WAS
COLLECTED.

Charles V. Costello



TULLY DRILLING COMPANY, INC.

Poynette, Pa.

LOG OF WELL

W.C. No.

Test No.

1

New York State Dept. of Transportation

Address Section No. 7 - Wautoma, New York

Route 87 - Southbound

Jefferson

County, State of

N.Y.

August 14, 1973

Date Test Hole Completed

Oct. 14, 1972

10 of 10

Total depth to bottom of Wall

250 Feet

Diameter Test Hole

61

can stand when not running.

19

—feet

- inches from the surface of the ground

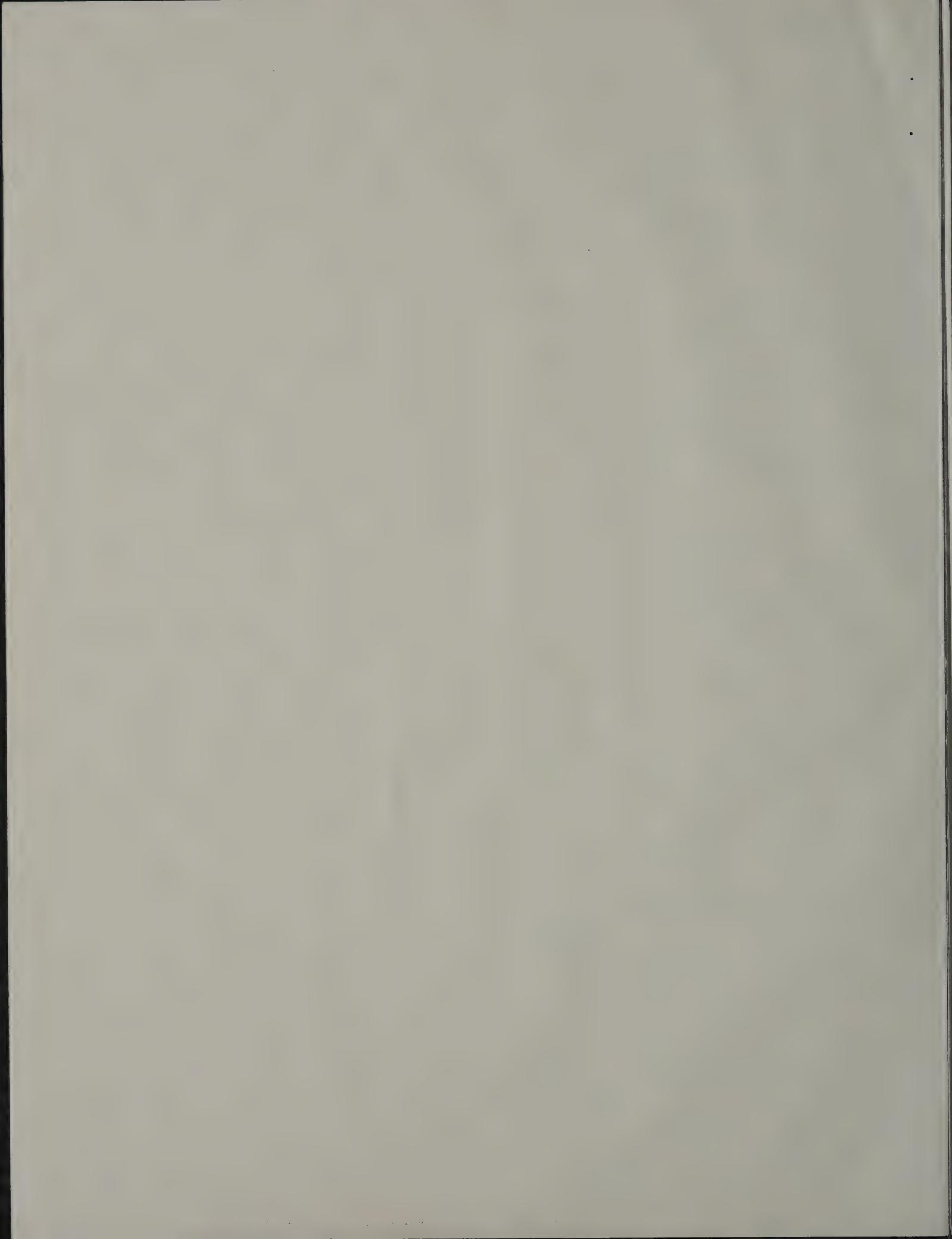
marks and opinion of Test

Well developed by air from drill to yield 10 G.P.M.

CHECK TYPE OF
RIG USED

Frank Matarrese Jr.

Driller



Record of well pumping test

CONTRACT NO. FIELD 73-16 , Sheet No. 1 of 2

Date March 25, 1973

OWNER NYS Dept. of Environmental Conservation, Jefferson, N.Y.
(Name and Address)

WELL NO. 5 LOCATION Route 81-Southbound, Jefferson County.

TEST DATA:

PERFORMED BY: Tully Drilling Co., Inc.

DATE STARTED: 8/16/73 DATE ENDED 3/17/73 PERIOD 24 HOURS

WELL DATA:

TYPE: Drilled Water Well Completed in Rock.

TOTAL DEPTH: 250 FEET DIAMETER 6"

DESCRIBE WELL

CASING: 79'-6" Casing Driven one foot in Rock.

ELEVATION TOP OF CASING OR OTHER REFERENCE POINT 2' Above Grade.

STATIC WATER LEVEL (BELOW REF. PT.): 22 feet.

REMARKS: One foot of Casing Installed after Pump Test.

PUMPING EQUIPMENT:

TYPE OF TEST PUMP: 3/4 HP. 220 Volt, 1 Phase Jacuzzi

Submersible Pump w/30 KW Cat. Generator.

CAPACITY: 16 GPM TDH: 380 FEET

OVERALL PUMP SETTING: 160 feet.

HOW WAS FLOW OF WATER MEASURED? Water Meter.

HOW WAS WATER LEVEL DETERMINED? Electric Probe.

LENGTH OF WATER LEVEL DETECTOR TUBE: none

REMARKS: Water Samples taken for Complete Analysis.

SUBMITTED BY: Vice Pres. TITLE



RECORD OF WELL PUMPING TEST

TULLY DRILLING CO., INC.

Sheet No. 2 of 2.Date August 25, 1973OWNER: NYS Dept. of Transportation, Box 200, Watertown, N.Y.
(Name and Address)WELL NO. 3 LOCATION: Route 81-Southbound, Jefferson County.TEST RESULTS:

TIME	GPM	WATER LEVEL (Feet Below Ref. Pt.)	DRAWDOWN (Feet)	WATER
		Meter		
10:00 AM	11	1352580	20'	Static Level
10:05	11		33'	13'
10:10	11		36'	16'
10:15	11		40'	20'
10:30	11		46'	26'
10:45	11		50'	30'
11:00	11	1353240	52'	32'
11:30	11		54'	34'
12:00	10.5		56'	36'
12:30 PM	10		57'	37'
1:00	10	1354485	58'	38'
2:00	10		58'	38'
3:00	10		59'	39'
4:00	10		59'	39'
5:00	10		60'	40':*
6:00	10	1357488	69'	49':*
7:00	10		72'	54':*
8:00	10		76'	56':*
9:00	10		64'	44':*
10:00	10		60'	40'
11:00	10		59'	39'
12:00 M	10	1361100	59'	39'
1:00 AM	10		59'	39'
2:00	10		59'	39'
3:00	10		59'	39'
4:00	10		59'	39'
5:00	10		59'	39'
6:00	10	1364730	59'	39'
7:00	10		59'	39'
8:00	10		59'	39'
9:00	10		59'	39'
10:00	10	1367150	59'	39'
RECOVERY:	1 min.		48'	
	2 "		44'	
	5 "		40'	
	15 "		20'	

*NOTE: Water Level Readings taken while No. 6 Well is Drilled through
water bearing rock strata.



130 ALLENDALE ROAD
BINGHAMTON, N. Y. 13903
722-0030

COSTELLO'S LABORATORY INC.

SUCCESSION TO NELSON & LAUDER
CHARLES V. COSTELLO
CONSULTING SANITARY CHEMIST

LABORATORY FOR
SANITARY & ANALYTICAL
CHEMISTRY

RESULTS OF EXAMINATION OF WATER

LABORATORY NO. C 75/74 COLLECTED BY Fully Drilling Co.

DATE COLLECTED 8/12/73 RECEIVED 8/12/73 REPORTED 8/20/73

PLACE Waterford N. Y. COUNTY

(CITY, TOWN, VILLAGE OR HAMLET)

SAMPLING POINT 120' from bottom of well

OWNER N.Y. Corporation of 70-111 TENANT

BACTERIAL EXAMINATION TEST FOR COLIFORM GROUP

BACTERIA PER ML. AGAR, 35°C - 24 HRS. M. P. N. * / 100 ML 1000 times 2.2 OK

THIS WATER WAS OF A SATISFACTORY SANITARY QUALITY WHEN THE SAMPLE WAS COLLECTED

PHYSICAL EXAMINATION

COLOR 2 TURBIDITY 1 ODOR + COLD Wet. + HOT

CHEMICAL EXAMINATION

RESULTS IN PARTS PER MILLION

IRON (Fe) .03

MANGANESE (Mn) Neg.

as Rec'd
CARBON DIOXIDE (CO₂) 3.0

FLUORIDES (F) Neg.

TOTAL SOLIDS 724

BICARBONATES Neg.

SILICA Neg.

TOTAL PHOSPHATES Neg.

SUSPENDED MATTER Neg.

DETERGENTS Neg.

NITROGEN CONSTITUENTS

AMMONIA FREE (AS N)

ALB. AMMONIA (AS N)

NITRITES (AS N)

NITRATES (AS N) .07

LOSS OF IGNITION Neg.

SULFATES 22

COPPER Neg.

ORTHO PHOSPHATES Neg.

TEMPT AIR ° F Neg.

OXYGEN CONSUMED (O)

CHLORIDES (Cl) 10

TOTAL HARDNESS (AS CaCO₃) 160

ALKALINITY (AS CaCO₃) 151

CALCIUM (AS CaCO₃) 72

MAGNESIUM (AS CaCO₃) 88

ELECTROMETRIC PH VALUE 7.35

META PHOSPHATES Neg.

TEMPT WATER ° F Neg.

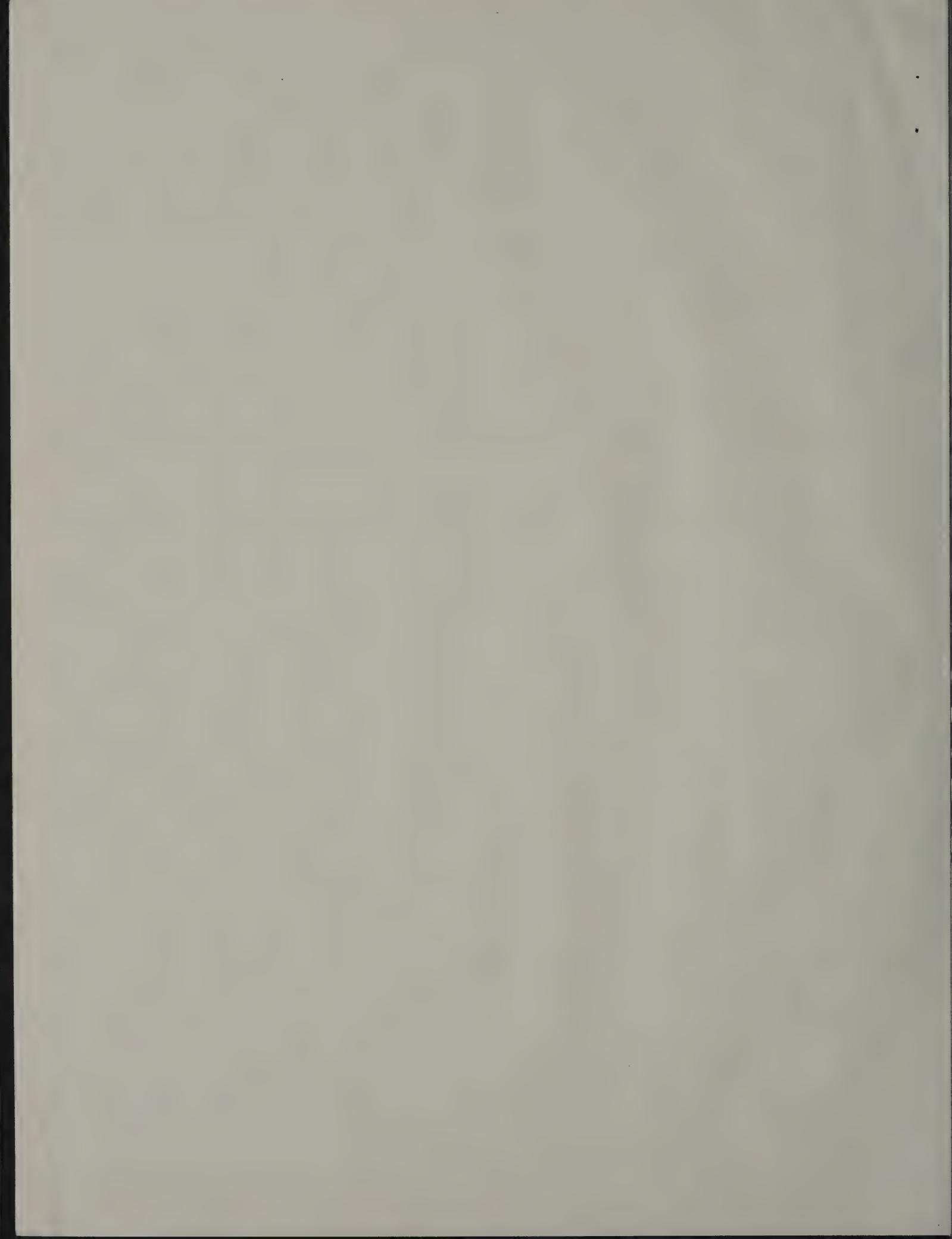
REMARKS:

* MOST PROBABLE NUMBER

1=VERY SLIGHT, 2=SLIGHT, 3=DISTINCT, 4=DECIDED, 5=EXTREME

Charles V. Costello

CHARLES V. COSTELLO



TULLY DRILLING COMPANY, INC.

20/11/04, 2000

LOG OF WELL

g of Well for New York State Dept. of Education 125-002 Well No. 34
Address Region No. 7, Laramie, New Mex. Test No. 34
All Located at Route 11, Boughsland in Jefferson County, State of N.Y.
Drilling started August 10, 1973 Date Test Hole Completed August 13, 1973
Total depth to bottom of Well 375' Diameter Test Hole 6"

marks and opinion of Test

Well doesn't produce any water- Contractor placed concrete plug in well.

Reverse
Rotary
Table Tool
Wash
Other?

Frank Matarrese jr.

Driller



TULLY DRILLING COMPANY, INC.

2. *Chlorophytum* *variegatum*

LOG OF WELL

W. J. No.

Takao Nagaoka

二

Log of Well for New York State Dep't. of Transportation

Address Section No. 7, Waterloo, Ia., March

Date Drilling started August 15, 1973 Date Test Hole Completed August 15, 1973

Total depth to bottom of Well 500 Feet Diameter Test Hole 6"

Total depth to bottom of Well 500 feet

Diameter Test Hole

61

Water stands when not pumping None feet 0 inches from the surface of the ground

Remarks and opinion of Test

No water veins encountered, contractor placed plug in well

Reyesse

Rotary

Castile Tool

Wash

Other?

Frank Matarrese Jr.

Drillier



TULLY DRILLING COMPANY, INC.

Poynette, Pa.

LOG OF WELL

Well No.

6

Test No.

or of Well for New York State Dept. of Environmental Conservation

Address Region No. 7, Waterbury, New York

Water stands when not pumping 20 feet _____ inches from the surface of the ground

marks and opinion of Test

Well developed by air from drill to 18 G.P.M.

**CHECK TYPE OF
RIG USED**

Frank Matarrese Jr.

Driller



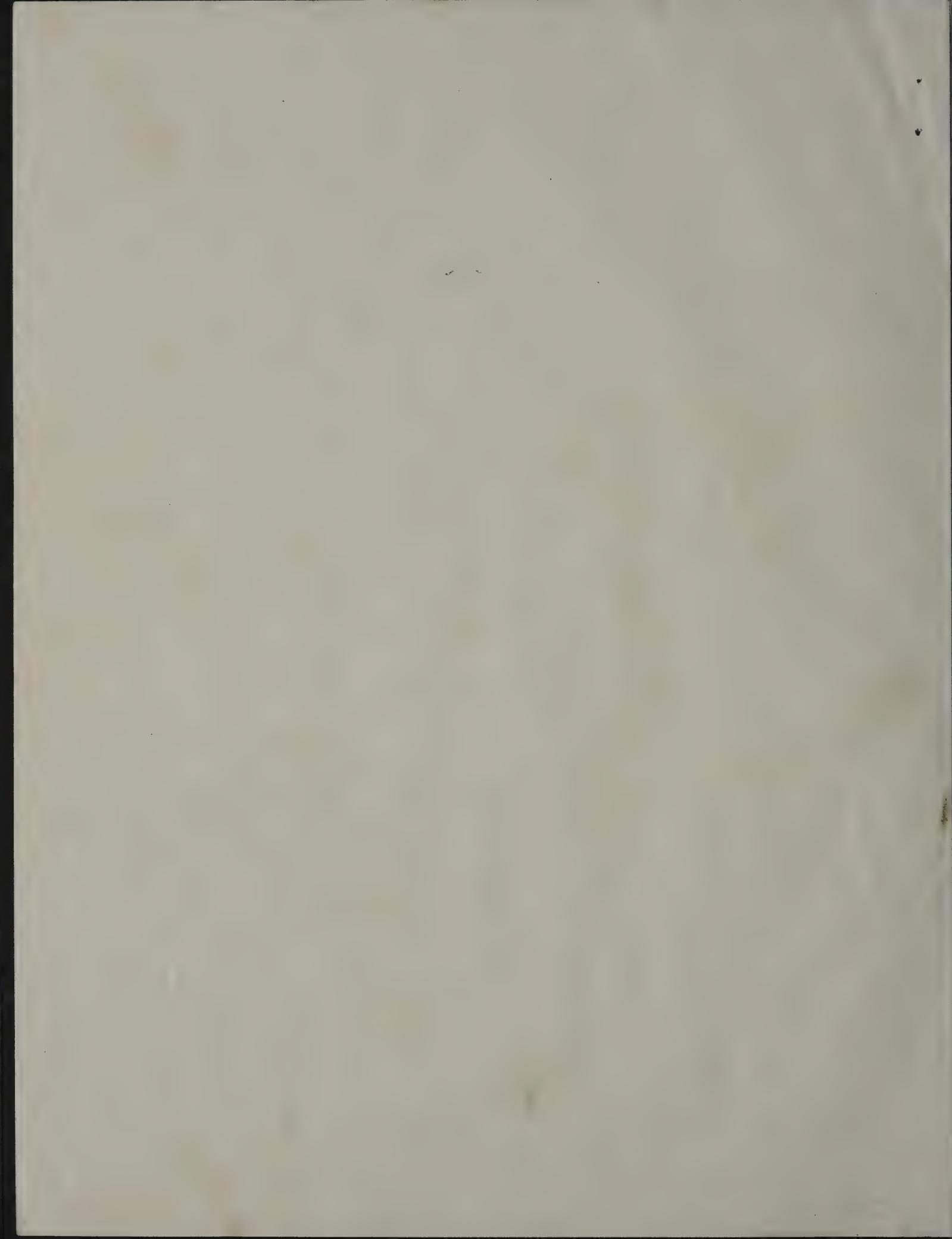
Record of well pumping test

CONTRACT NO. FIELD 73-16 Sheet No. 1 of 2

Date May 25, 1973OWNER NYS Dept. of Transportation, Section 7, Malone, N.Y.
(Name and Address)WELL NO. 6 LOCATION Route 81-Southbound, Jefferson County.TEST DATA:PERFORMED BY: Tully Drilling Co., Inc.DATE STARTED: 8/20/73 DATE ENDED 8/21/73 PERIOD 24 HOURSWELL DATA:TYPE: Drilled Water Well Completed in Rock.TOTAL DEPTH: 200 FEET DIAMETER 6"

DESCRIBE WELL

CASING: 78'-6" Casing Driven one foot in Rock.ELEVATION TOP OF CASING OR OTHER REFERENCE POINT: Base of Casing.STATIC WATER LEVEL (BELOW REF. PT.): 16 feetREMARKS: One foot of Casing Installed after Pump Rock.PUMPING EQUIPMENT:TYPE OF TEST PUMP: 5 HP, 220 Volt, 3 Phase Red JacketSubmersible Pump w/30 kW Cat. Generator.CAPACITY: 65 GPM TDH: 450 FEETOVERALL PUMP SETTING: 120 feet.HOW WAS FLOW OF WATER MEASURED? Water Meter.HOW WAS WATER LEVEL DETERMINED? Electric Probe.LENGTH OF WATER LEVEL DETECTOR TUBE: noneREMARKS: Water Samples taken for Complete Analysis.SUBMITTED BY: TITLE Vice Pres.



RECORD OF WELL PUMPING TEST

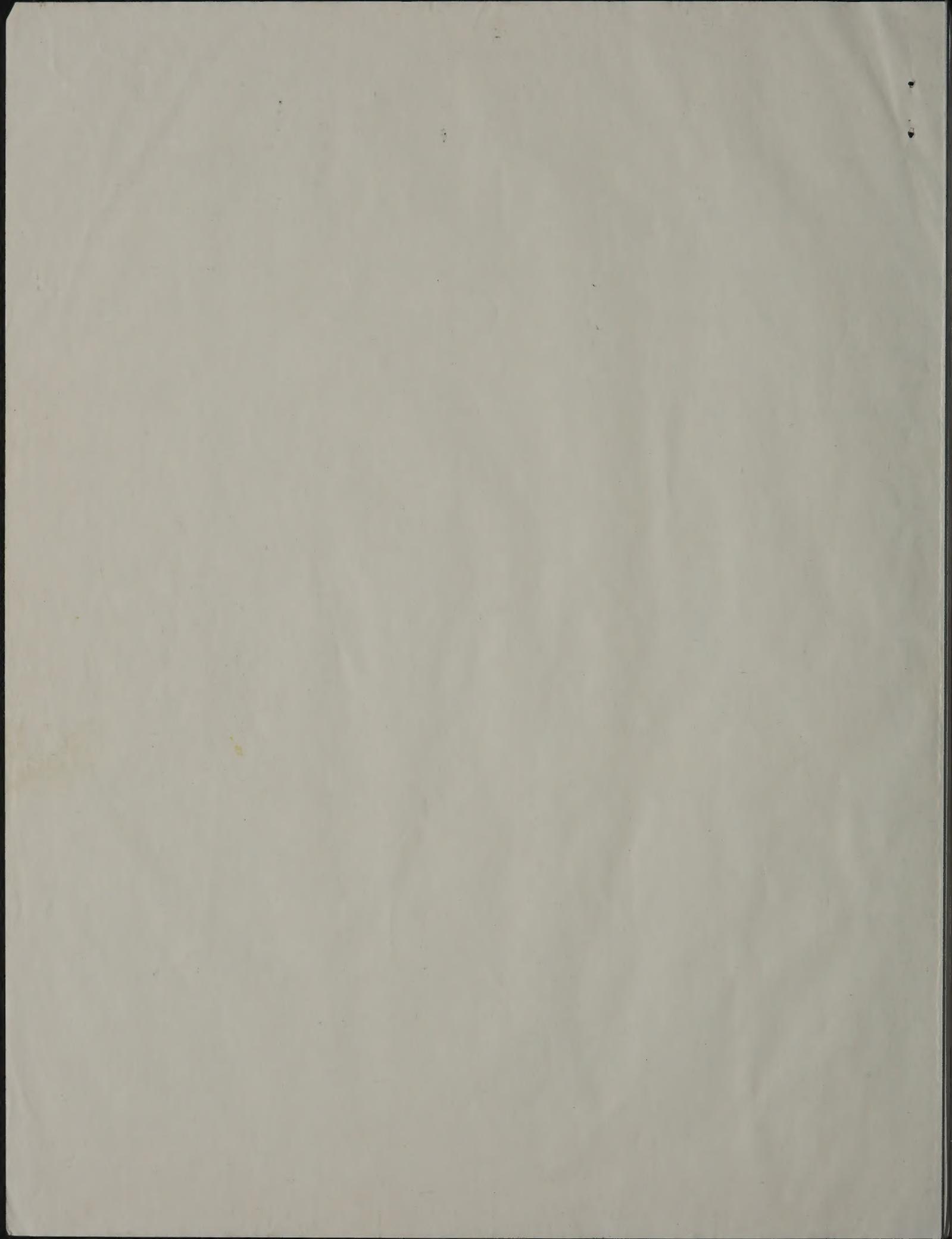
TULLY DRILLING CO., INC.

Sheet No. 2 of 2.Date August 25, 1973OWNER: NYS Dept. of Transportation, Region 7, Watertown, N.Y.
(Name and Address)WELL NO. 6 LOCATION: Route 81-Southbound, Jefferson County.

TEST RESULTS:

TIME	GPM	WATER LEVEL (Feet Below Ref. Pt.)	DRAWDOWN (Feet)	WATER
12:40 PM	Meter 1367150	16 ¹	Static Level Well 3.*	
12:42	30	50 ¹	34 ¹	Clear
12:45	25	84 ¹	68 ¹	"
1:00	22	103 ¹	87 ¹	"
1:30	22	128 ¹	112 ¹	"
2:00	22	136 ¹	120 ¹	"
2:30	21	143 ¹	127 ¹	"
3:00	21	148 ¹	132 ¹	"
3:30	20	149 ¹	133 ¹	"
4:00	20	1371450	134 ¹	"
4:30	20	150 ¹	134 ¹	"
5:00	20	150 ¹	134 ¹	"
6:00	20	1373240	134 ¹	"
7:00	19	150 ¹	134 ¹	"
8:00	19	150 ¹	134 ¹	"
9:00	19	150 ¹	134 ¹	"
10:00	19	150 ¹	134 ¹	"
11:00	18	150 ¹	134 ¹	"
12:00 N	18	1380000	134 ¹	"
1:00 AM	18	150 ¹	134 ¹	"
2:00	18	150 ¹	134 ¹	"
3:00	18	150 ¹	134 ¹	"
4:00	18	150 ¹	134 ¹	"
5:00	18	150 ¹	134 ¹	"
6:00	18	1387075	134 ¹	"
7:00	18	150 ¹	134 ¹	"
8:00	18	150 ¹	134 ¹	"
9:00	18	150 ¹	134 ¹	"
10:00	18	150 ¹	134 ¹	"
11:00	18	150 ¹	134 ¹	"
12:00 N	18	1394970	134 ¹	"
12:45	18	150 ¹	134 ¹	"
RECOVERY: 1 min.		150 ¹	36 ¹	
5 "		45 ¹	30 ¹	
15 "		26 ¹	21 ¹	
30 "		16 ¹	20 ¹	

*NOTE: Water level noted while pumping No. 6 well.



110 ALLEGHENY ROAD
BINGHAMTON, N. Y. 13903
722 - 0030

COSTELLO'S LABORATORY INC.
SUCCESSOR TO NELSON & LAUDER
CHARLES V. COSTELLO
CONSULTING SANITARY CHEMIST

LABORATORY FOR
SANITARY & ANALYTICAL
CHEMISTRY

RESULTS OF EXAMINATION OF WATER

LABORATORY NO. C 18/74 COLLECTED BY Thomas Tully
DATE COLLECTED 8/23/73 RECEIVED 8/23/73 REPORTED 8/25/73
PLACE Watertown N. Y. (CITY, TOWN, VILLAGE OR HAMLET) COUNTY
SAMPLING POINT New Well # 65 B 81 Pump Discharge
OWNER NYSDOT TENANT _____

BACTERIAL EXAMINATION

TEST FOR COLIFORM GROUP

BACTERIA PER ML. AGAR, 35OC - 24 HRS. 1 M. P. N. * / 100 ML. less than 2.2 OK

THIS WATER WAS _____ OF A SATISFACTORY SANITARY QUALITY WHEN THE SAMPLE WAS COLLECTED

PHYSICAL EXAMINATION

COLOR 1.0 TURBIDITY 1.0 ODOR + COLD Veg. + HOT _____

CHEMICAL EXAMINATION

RESULTS IN PARTS PER MILLION

IRON (Fe) .04
MANGANESE (Mn) neg.
as Rec'd
CARBON DIOXIDE (CO₂) 4.0
FLUORIDES (F) _____
TOTAL SOLIDS 175
BICARBONATES 134
SILICA _____
TOTAL PHOSPHATES _____
SUSPENDED MATTER Neg.
DETERGENTS _____

NITROGEN CONSTITUENTS 0	AMMONIA FREE (AS N) _____	OXYGEN CONSUMED (O) _____
	ALB. AMMONIA (AS N) _____	CHLORIDES (Cl) <u>25</u>
	NITRITES (AS N) _____	TOTAL HARDNESS (AS CaCO ₃) <u>125</u>
	NITRATES (AS N) <u>.06</u>	ALKALINITY (AS CaCO ₃) <u>154</u>
LOSS OF IGNITION _____		
SULFATES <u>25</u>		
COPPER _____		
ORTHO PHOSPHATES _____		
TEMP AIR ° F _____		
TEMP WATER ° F _____		

REMARKS:

* MOST PROBABLE NUMBER

+1=VERY SLIGHT, 2=SLIGHT, 3=DISTINCT, 4=DECIDED, 5=EXTREME

Charles V. Costello

CHARLES V. COSTELLO

$$A = \pi r^2$$

$$A = \frac{22}{7} \times (25)^2 = \frac{22}{7} \times 625 = \frac{13750}{7} = 1964 \frac{4}{7}$$

$$7.5 \sqrt{1964} = 44$$

$$7.5 \sqrt{196} = 14$$

$$7.5 \sqrt{4} = 2$$

$$7.5 \times 14 \times 2 = 2100$$

$$\frac{1}{16}) \underline{.0625}$$

$$1.000$$

$$96$$

$$40$$

$$32$$

$$80$$

$$80$$

102464 G per ft.

$$7.5 \sqrt{198} \text{ CF/FT}$$

$$\begin{array}{r}
 27.5 \\
 7.5 \\
 \hline
 1375 \\
 550 \\
 \hline
 78.75 \\
 60 \\
 \hline
 472500
 \end{array}
 \quad
 \begin{array}{r}
 147 \\
 1.47 \\
 \hline
 145.53
 \end{array}
 \quad
 \begin{array}{r}
 1.47 \\
 99
 \end{array}$$

$$\begin{array}{r}
 102464 \sqrt{1.00000} \\
 9856 \\
 \hline
 1440
 \end{array}
 \quad
 \begin{array}{r}
 40
 \end{array}$$

01039



LRI